

CLAIM AMENDMENTS

This listing of claims will replace all prior versions, and listings, of claims in the application.

1 1. (Currently amended) A method of providing reliability to an interconnect
2 fabric for communication among a set of nodes, the method comprising:
3 partitioning ports associated with each node into a first set of ports and
4 a second set of ports, the first set of ports comprising at least one port of each
5 node and the second set of ports comprising at least one other port of each
6 node;
7 forming a first interconnect fabric among the first set of ports for ~~each~~
8 ~~node in response to~~ meeting a set of flow requirements, the set of flow
9 requirements specifying communication bandwidth requirements between
10 pairs of the nodes and the first interconnect fabric comprising a plurality of
11 communication links and at least one interconnect device coupled to three or
12 more of the communication links; and
13 forming a second interconnect fabric among the second set of ports.

1 2. (Original) The method according to claim 1, wherein said forming the first
2 interconnect fabric comprises generating arrangements of flow sets in
3 response to the flow requirements, determining one or more port violations
4 with respect to the first set of ports for each node and alleviating at least one of
5 the port violations by merging a pair of the flow sets.

1 3. (Original) The method according to claim 1, wherein said set of nodes
2 includes source nodes and terminal nodes.

1 4. (Cancelled)

1 5. (Original) The method according to claim 1, said partitioning further
2 comprising partitioning the ports associated with each node into a number of
3 additional sets of ports.

1 6. (Original) The method according to claim 5, further comprising forming
2 additional interconnect fabrics among the additional sets of ports.

1 7. (Currently amended) The method according to claim 1, wherein said
2 forming said second interconnect fabric is performed ~~in response to~~ meet the
3 set of flow requirements.

1 8. (Currently amended) The method according to claim 1, wherein said
2 forming said second interconnect fabric is performed ~~in a response to~~ meet a
3 relaxed set of flow requirements.

1 9. (Currently amended) The method according to claim 1, wherein ~~when a~~
2 ~~source node or a terminal node~~ has an odd number of ports equal to $2n+1$, the
3 first set of ports ~~for the node~~ includes $n+1$ ports of the node and the second set
4 of ports ~~for the node~~ includes n ports of the node.

1 10. (Currently amended) The method according to claim 1, wherein when a
2 ~~source node or a terminal~~ node has only one port, further comprising a step of
3 coupling an interconnect device to the port prior to the partitioning so that a
4 plurality of ports of the port-coupled interconnect device are associated with
5 the node.

1 11. (Currently amended) A system for providing reliability to a design for an
2 interconnect fabric for communication ~~between~~ among a set of nodes, the
3 system comprising:

4 means for storing a set of design information including a set of flow
5 requirements for the interconnect fabric, the set of flow requirements
6 specifying communication bandwidth requirements between pairs of the
7 nodes; and

8 a fabric design tool that partitions ports associated with each node into
9 a first set of ports and a second set of ports, the first set of ports comprising at
10 least one port of each node and the second set of ports comprising at least one
11 other port of each node and that generates a first design for the interconnect
12 fabric among ~~of the~~ first set of ports ~~for each node~~, the first design being in

13 ~~response to~~for meeting the flow requirements and the first design specifying a
14 plurality of communication links and at least one interconnect device coupled
15 to three or more of the communication links, and that generates a second
16 design for the interconnect fabric among a the second set of ports ~~for each~~
17 ~~node~~.

1 12. (Original) The system according to claim 11, wherein said fabric design
2 tool generates arrangements of flow sets in response to the flow requirements,
3 determines one or more port violations with respect to the first set of ports for
4 each node and alleviates at least one of the port violations by merging a pair of
5 the flow sets.

1 13. (Original) The system according to claim 11, wherein said set of nodes
2 includes source nodes and terminal nodes.

1 14. (Cancelled)

1 15. (Original) The system according to claim 11, wherein said fabric design
2 tool further partitions the ports associated with each node into a number of
3 additional sets of ports.

1 16. (Original) The system according to claim 15, wherein said fabric design
2 tool forms additional interconnect fabrics among the additional sets of ports.

1 17. (Currently amended) The system according to claim 11, wherein said
2 fabric design tool forms said second interconnect fabric ~~in response to~~ meet
3 the set of flow requirements.

1 18. (Currently amended) The system according to claim 11, wherein said
2 fabric design tool forms said second interconnect fabric ~~in a response to~~ meet
3 a relaxed set of flow requirements.

1 19. (Currently amended) The system according to claim 11, wherein ~~when a~~
2 ~~source node or a terminal~~ node has an odd number of ports equal to $2n+1$, the

3 first set of ports ~~for the node~~ includes $n+1$ ports of the node and the second set
4 of ports ~~for the node~~ includes n ports of the node.

1 20. (Currently amended) The system according to claim 11, wherein when a
2 ~~source node or a terminal~~ node has only one port, an interconnect device is
3 coupled to the port is added to the design prior to the fabric design tool
4 partitioning the ports into the first set of ports and the second set of ports.

1 21. (New) The method according to claim 1, wherein the second set of ports
2 includes fewer ports of at least one node than the first set of ports.

1 22. (New) The method according to claim 1, wherein the second interconnect
2 fabric comprises a plurality of second communication links and at least one
3 interconnect device coupled to three or more of the second communication
4 links.

1 23. (New) The method according to claim 8, wherein the relaxed set of flow
2 requirements for the second interconnect fabric comprise reduced bandwidth
3 requirements between pairs of the nodes, the reduced bandwidth requirements
4 being a percentage of the bandwidth requirements between the pairs for the
5 nodes for the first interconnect fabric.

1 24. (New) The system according to claim 11, wherein the second set of ports
2 includes fewer ports of at least one node than the first set of ports.

1 25. (New) The system according to claim 11, wherein the second design for
2 the interconnect fabric specifies a plurality of second communication links and
3 at least one interconnect device coupled to three or more of the second
4 communication links.

1 26. (New) The system according to claim 18, wherein the relaxed set of flow
2 requirements for the second interconnect fabric comprise reduced bandwidth
3 requirements between pairs of the nodes, the reduced bandwidth requirements

4 being a percentage of the bandwidth requirements between the pairs for the
5 nodes for the first interconnect fabric.
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